MXD105

INSTALLATION/OWNER'S MANUAL

AM/FM Receiver with Detachable Face

MP3 **WMA**

USB ***AUX***

Dual®

Preparation

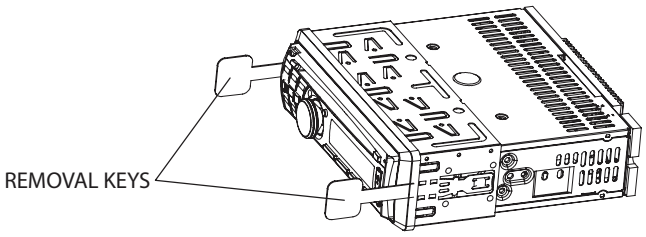
Please read entire manual before installation.

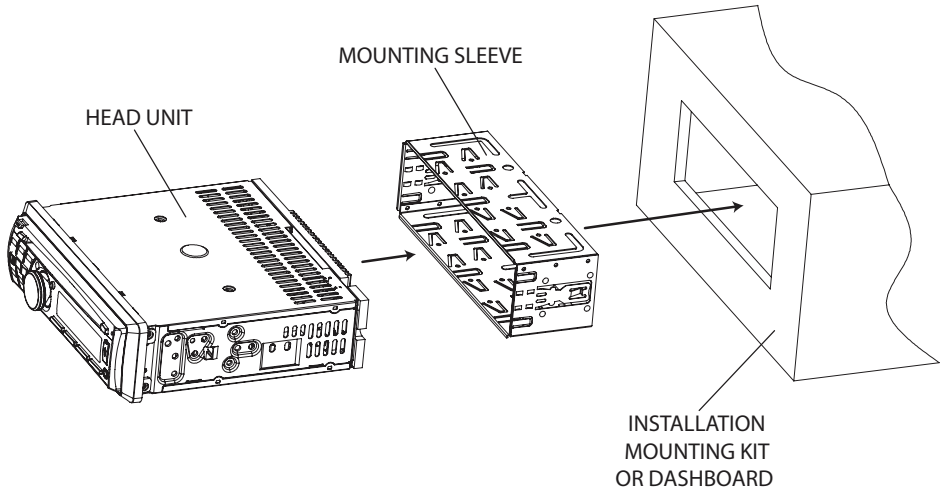
Before You Start

- Disconnect negative battery terminal. Consult a qualified technician for instructions.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight, or where it would be subject to dust, dirt or excessive vibration.

Getting Started

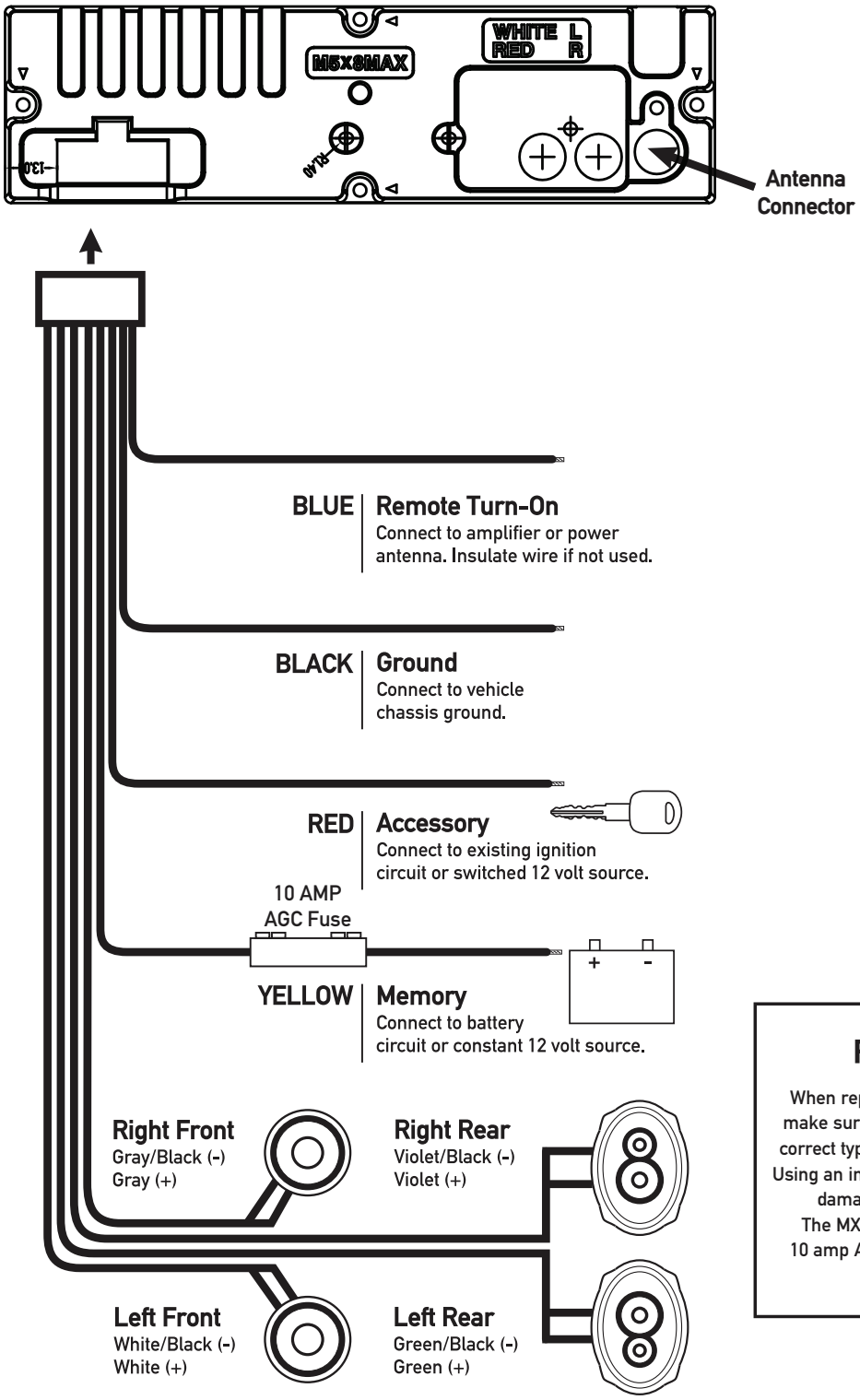
- Remove trim ring from unit.
- Remove 2 transit screws located on top of the unit.
- Insert the supplied keys into the slots as shown, and slide the unit out of the mounting sleeve.
- Install mounting sleeve into opening, bending tabs to secure.
- Connect wiring harness and antenna. Consult a qualified technician if you are unsure.
- Certain installations may require an installation kit and/or wiring harness adapter (sold separately).
- Test for correct operation and slide into mounting sleeve to secure.
- Snap trim ring into place.





TYPICAL FRONT-LOAD DIN MOUNTING METHOD

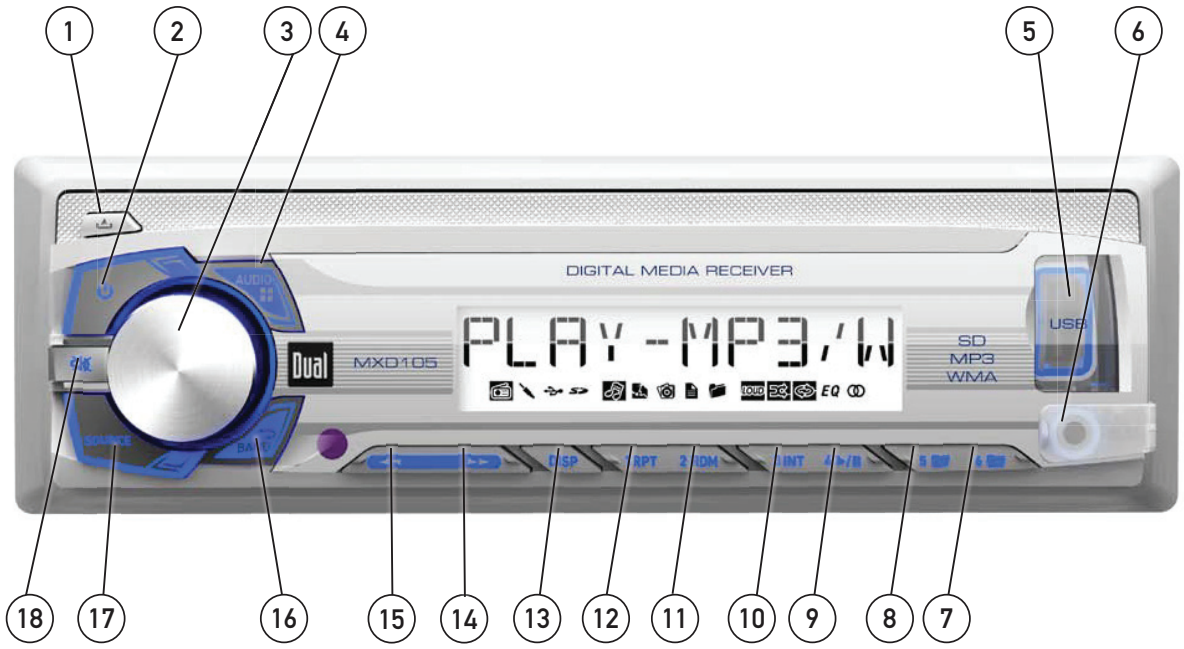
Wiring Diagram



FUSE

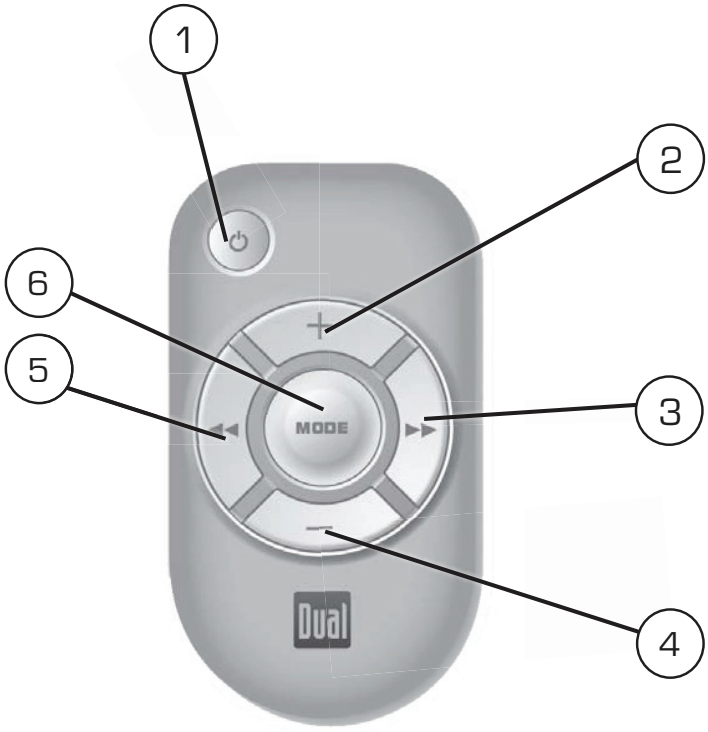
When replacing the fuse, make sure new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio.
The MXD105 uses one 10 amp AGC fuse located in-line.

Control Locations - Receiver



1. Release
2. Power
3. Volume Knob
4. Audio / Menu
5. USB Port
6. Auxiliary Input
7. Preset 6 / Folder Up
8. Preset 5 / Folder Down
9. Preset 4 / Play / Pause
10. Preset 3 / Intro
11. Preset 2 / Random
12. Preset 1 / Repeat
13. Display
14. Tune Up
15. Tune Down
16. Band / Go Back
17. Mode
18. Mute

Control Locations - Remote



1. Power
2. Volume Up
3. Tune Up
4. Volume Down
5. Tune Down
6. Mode

General Operation

Faceplate Removal	Press **RELEASE** and pull away from the left side to remove. To re-install, insert right side of faceplate first then push left side to secure.
Power On/Off	Press ⏻ **or any other button** to turn the unit on. Press ⏻ again to turn the unit off.
Mode	Press **MODE** to select between AM/FM, USB, SD or auxiliary input modes. Modes of operation are indicated in the display. SD and USB modes will not appear unless an SD Card is inserted or a USB device is connected.
Display	The radio frequency (tuner mode) or MP3/WMA title/track information (USB and SD modes) will be shown by default. Press **DISP** to display the clock. The default display will return after five seconds. When in USB or SD mode, the display will alternate between track number/elapsed time and available MP3/WMA information, including file name, song title, artist name, album name and folder name.
Reset	Press **RESET** upon initial installation or if abnormal operation occurs. Reset button is located behind the front panel.
Set the Clock	Press **DISP** to display the clock, then press and hold **DISP** until the hours will flash. Rotate the **volume knob** to adjust the hours. Press the **volume knob**, and the minutes will flash. Rotate the **volume knob** to adjust the minutes.
Auxiliary Input	Insert a 3.5mm connector in the front panel AUX port. Connect the other end of the 3.5mm connector to the headphone output of an audio device, MP3 player, etc.
Volume	Adjust volume using the **volume knob** (00-40).
Preset EQ Curves	Press **EQ** to select between the following preset equalization curves: FLAT, POP, JAZZ, ROCK and OFF. **Note:** Ability to manually adjust Bass and Treble settings is disabled when a preset equalization curve is selected. Setting equalization curves to OFF enables manual Bass and Treble adjustments as outlined on page 7.

General Operation

Audio / Menu

Press the **volume knob** to select between Bass, Treble, Balance, Fader, Loudness, Distance and Stereo.

BASS → TREBLE → BALANCE → FADER → LOUDNESS → DISTANCE → STEREO

Bass

Press the **volume knob** until **BAS** appears.
Rotate the **volume knob** left/right to adjust.
(-7 minimum / +7 maximum)

Treble

Press the **volume knob** until **TRE** appears.
Rotate the **volume knob** left/right to adjust.
(-7 minimum / +7 maximum)

Balance

Press the **volume knob** until **BAL** appears.
Rotate the **volume knob** left/right to adjust.
10L (left) to **10R** (right). "L=R" represents equal balance.

Fader

Press the **volume knob** until **FAD** appears.
Rotate the **volume knob** left/right to adjust.
10R (rear) to **10F** (front) "F=R" represents equal balance.

Loudness

Press the **volume knob** until **LOUD ON** or **LOUD OFF** appears, then rotate the **volume knob** to select desired option. Activating this feature will enhance the bass and treble frequencies when listening to music at low volumes.

Distance Tuning

From tuner mode only, press the **volume knob** until **DX** or **LOCAL** appears, then rotate the **volume knob** to select desired option. Selecting LOCAL programs the unit to stop at only strong stations when seek tuning.

Stereo / Mono

From tuner mode only, press the **volume knob** until **STEREO** or **MONO** appears, then rotate the **volume knob** to select desired option. Selecting MONO can improve listening in areas with a weak FM signal.

Audible Beep

Press and hold the **volume knob** until BEEP ON or BEEP OFF appears, then rotate the **volume knob** to select desired option. Activating this feature programs the unit to beep each time certain buttons are pressed.

Area Selection

From tuner mode only, press and hold the **volume knob** until BEEP ON or BEEP OFF appears. Press the **volume knob** again to display AREA USA or AREA EURO, then rotate the **volume knob** to select option appropriate for your location.

12/24-Hour Clock

The clock will display 12-hour AM/PM time in USA frequency spacing mode (PM 10.00). In European frequency spacing mode, the clock will display 24-hour time (22.00).

AM/FM Tuner Operation

Seek Tuning	Press **TUNE ◄◄** or **TUNE ►►** momentarily to seek to the next strong station.
Manual Tuning	Press and hold **TUNE ◄◄** or **TUNE ►►** until "MANUAL" appears, then press **TUNE ◄◄** or **TUNE ►►** momentarily to change radio frequency up or down one step at a time. Press and hold to advance quickly.
Band	Press **BAND** to select between FM1, FM2, FM3, AM1 and AM2 bands.
Storing and Recalling Station Presets	Up to 18 FM stations and 12 AM stations can be stored. To store a station, select the desired band and station. Press and hold the desired preset button (1-6) for more than 2 seconds. When stored, the preset number will appear in the display. The station can be recalled anytime by pressing the corresponding preset button.

USB / SD Card Operation

Connecting a USB Device (sold separately)	To play MP3/WMA files from most USB mass storage devices, line up the USB connector and insert the USB device into the MXD105's USB port.
Inserting an SD Card (sold separately)	To play MP3/WMA/WAV files from an SD card, insert an SD card into the SD card slot with the label facing left. It will click into place when properly inserted. To remove the card, press in until it clicks, then pull to remove.
Playing Music	When a USB device is first connected, “LOAD” will appear in the display and playback will begin momentarily. Depending on the number of files and folders, it may take several seconds for the device to begin playing. If no valid MP3/WMA files are detected, “NO FILE” will be displayed and the last mode will be resumed.
Track Select	Press **TRACK ►►** to skip to the beginning of the next track. Press **TRACK ◄◄** to return to the beginning of the current track. Pressing **TRACK ◄◄** again skips to the beginning of the previous track.
Fast Forward and Reverse	Press and hold **TRACK ►►** or **TRACK ◄◄** on the remote control to fast forward or reverse a track.
Pause	Press **►/❚❚** to temporarily stop USB playback. Press **►/❚❚** again to resume playback.
Displaying Information	ID3 tag and file/folder information will be automatically changed during playback. Press **DISP** to view the clock. Default display will resume after five seconds.

USB / SD Card Operation

Repeat

Press RPT to choose between:
- Current Song - Continuously repeats selected track.
- Current Folder - Continuously repeats all files in folder.

Random

Press RDM to choose between:
- Off - Cancels RDM function.
- All Songs - Plays all tracks in random order.
- Current Folder - Plays all tracks in folder in random order.

Intro Character Support

Press INT to enter the Intro menu, then turn the volume knob to select one of the following options:
- Off - Cancels the INT function.
- All Songs - Plays first 10 seconds of each track.
- Current Folder - Plays first 10 seconds of each track in folder.

Media Compatibility

Maximum character display information
- Track name – 64 character maximum
- Directory name – 64 character maximum
- *Song title – 64 character maximum
- *Artist name – 64 character maximum
- *Album name – 64 character maximum

*Song title, artist name and album name will only be displayed if included with the MP3/WMA file.

The following types of files are compatible:
- MP3 data
- WMA data

The following types of files are not compatible:
- WMA files that are protected by DRM (Digital Rights Management).
- WMA lossless format
- MP3 PRO format
- MP3 playlists
- WAV format

Playback Order

MP3/WMA playback sequence is based on order the files are copied to the USB/SD device and begins in the root folder. Any empty folders or folders that do not include MP3/WMA files are skipped. Depending on your software, the playback order may vary.

USB / SD Card Operation

Playback Capacity	• Maximum number of files: 1024 • Maximum number of folders: 512 • Maximum number of folder levels (sub folders): 8 **Note:** If the number of files/folders exceeds the maximum outlined above, the additional files/folders will be ignored. **Note:** Devices that exceed the maximum number of files or folders may not function properly.
USB Device Compatibility	Due to the differences of USB devices, some devices may not be compatible. USB devices must be 'mass storage class' and formatted to the FAT or FAT32 file system in order to ensure compatibility. USB devices must be 32GB or smaller in capacity to be compatible.
Additional MP3/WMA Information	Only MP3 files with filename extension (.mp3) can be played. Only WMA files with filename extension (.wma) can be played. Do not attempt to play non-MP3/WMA files with the MP3/WMA extension.
Sampling Frequency Rates	
MP3	8kHz ~ 48kHz
WMA	8kHz ~ 48kHz
Transfer Bit rates	
MP3	8kbps ~ 320kbps constant Variable bit rates
WMA	8kbps ~ 384kbps constant Variable bit rates **Note:** Some files may not play or be displayed correctly, depending on sampling rates and bit rates.
MP3 Tag Display	ID3 tags Version 1.0 to 2.0 **Note**: If an invalid ID3 tag version is detected, "NO SUPPORT" will scroll on the display.

Troubleshooting

Problem	Cause	Action
Unit will not turn on (no power)	Yellow wire not connected or incorrect voltage Red wire not connected or incorrect voltage	Check connections for proper voltage (11~16VDC)
	Black wire not connected	Check connection to ground
	Fuse blown	Replace fuse
Unit has power (but no sound)	Speaker wires not connected	Check connections at speakers
	One or more speaker wires touching each other or touching chassis ground	Insulate all bare speaker wires from each other and chassis ground
Unit blows fuses	Yellow or red wire touching chassis ground	Check for pinched wire
	Speaker wires touching chassis ground	Check for pinched wire
	Incorrect fuse rating	Use fuse with correct rating
NO FILE appears on display	No playable MP3/WMA files found on the device	Check the device for valid MP3/WMA files
NO SUPPORT appears on display	An invalid ID3 tag version is present	Version 1.0 to 2.0 ID3 tags are supported.

Limited One Year Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased from an authorized Dual dealer and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: software, installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product. Specific license conditions and copyright notices for the software can be found via www.dualav.com.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls may save you a service call.

2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.

3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.

4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

   - Call us toll-free at 1-866-382-5476
   - E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Specifications

FM Tuner

Tuning range: **87.5MHz-107.9MHz**
Usable sensitivity: **10dBf**
50dB quieting sensitivity: **25dbu**
Stereo separation @ 1kHz: **>30dB**
Frequency response: **30Hz-13kHz**

AM Tuner

Tuning range: **530kHz-1710kHz**
Usable sensitivity: **<42dBu**
Frequency response: **30Hz-2.2kHz**

General

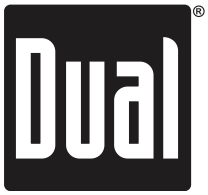
Speaker output impedance: **4~8 ohms**
Line output voltage: **2 Volts RMS**
Dimensions: **7" x 7" x 2" (178 x 178 x 50 mm)**

Design and specifications subject to change without notice.

CEA-2006 Power Standard Specifications
(reference: 14.4VDC +/- 0.2V, 20Hz~20kHz)

Power Output: 18 Watts RMS x 4 channels at 4 ohms and $\leq$ 1% THD+N
Signal to Noise Ratio: 70dBA (reference: 1 watt into 4 ohms)

Notes



Dual Electronics Corp.
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9AM-5PM EST, Monday-Friday

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NSA0314-V01

Quick Start Guide

For Mechless and CD Receivers

Not all features listed in this QSG
are available on all models.

To download the complete,
model-specific manual, please visit
www.dualav.com/support/manuals.php
or call 1-866-382-5476,
9AM-5PM EST (Monday-Friday).

Installation

Before You Start

- Consult a qualified technician for instructions. Dual always recommends professional installation.
- Disconnect negative battery terminal.
- Remove trim ring from unit (if installed).
- Remove 2 transit screws located on top of the unit (if applicable).
- Insert the removal keys, and remove the mounting sleeve from the head unit.

Note: Most vehicles require an installation kit, wiring harness and/or antenna adapter (all sold separately) to properly install the head unit in the vehicle.

Installation Process

1. Carefully remove the existing head unit.
2. Connect wiring harness. Consult a qualified technician if you are unsure.
3. Mount the head unit using the mounting sleeve or ISO brackets (depending on your vehicle's dashboard).
4. Connect wiring harness and antenna. Test the head unit for correct operation.
5. Slide into mounting sleeve to secure, or mount the ISO brackets to the vehicle.
6. Snap trim ring into place.

Wiring Connections

The chart below the connection for each wire in the wiring harness.

Color	Connection
Red	12V Ignition / Accessory
Yellow	12V Battery / Memory
Black	Ground
Blue	Power Antenna / Amp Turn-on
Grey	Right Front (+)
Grey/Black	Right Front (-)
White	Left Front (+)
White/Black	Left Front (-)
Violet	Right Rear (+)
Violet/Black	Right Rear (-)
Green	Left Rear (+)
Green/Black	Left Rear (-)

Tip:
When a suitable ground wire is not present in the vehicle wiring harness, connect the black ground wire to the vehicle chassis.

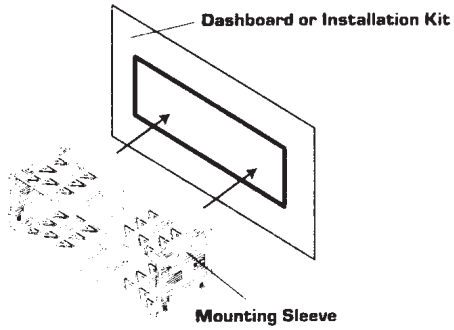
Fuse:
When replacing the fuse, make sure new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio.

Installation

Mounting the Head Unit: Typical DIN mounting

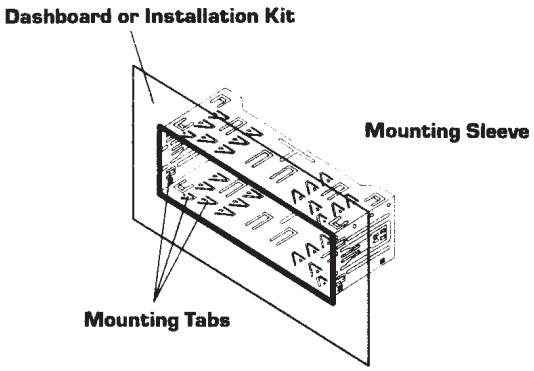
Step 1:

Insert the mounting sleeve into the installation kit or dashboard.



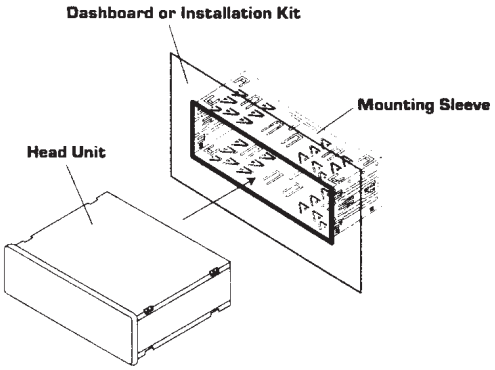
Step 2:

Bend multiple mounting tabs around the mounting sleeve until the mounting sleeve is secure.



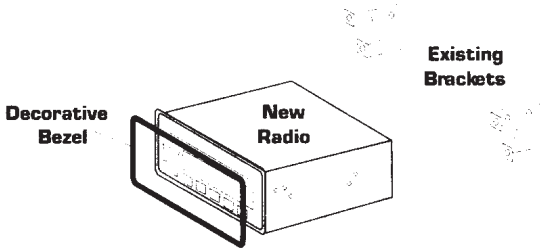
Step 3:

Connect all wiring harnesses and slide the head unit into the mounting sleeve until it clicks into place.



Mounting the Head Unit: ISO mounting

Using the existing brackets or the brackets supplied with the installation kit, mount the brackets to the sides of the head unit with the screws supplied with the head unit.



General Operation

Power On/Off	Press the ⏻ button to turn the unit on. Press ⏻ again to turn unit off.
Faceplate Removal	Press **RELEASE** and pull away from the left side to remove. To re-install, insert right side of faceplate first then push left side to secure.
Changing Modes	Press **MODE** to select between AM/FM, CD player, auxiliary front/rear, USB and operation of iPod/iPhone. Modes of operation are shown in the display.
Volume	Adjust volume using volume knob.
Mute	Press 🔇 to silence the audio. Press 🔇 again to resume listening at the previously selected volume.
Auxiliary Inputs	Insert a 3.5mm cable in the units front AUX port, or RCA cables into the rear AUX-IN connectors.
Reset	Press the **RESET** button to reset the unit back to the factory settings if abnormal operation occurs. The reset button is located behind the front panel.
Setting the Clock	With the unit on, press and hold **DISP** until the clock begins to flash, then release. Press **TUNE** ◄◄ to adjust the hours and **TUNE** ►► to adjust the minutes. Press **DISP** momentarily to save the selected time.
Display	Press **DISP** to toggle display between various displayed information.
Audio / Menu	Press and hold **AUDIO/MENU** for more than three seconds to access the setup menu. Press **AUDIO/MENU** momentarily to select between the menu functions and rotate the **volume knob** left/right to adjust or activiate the desired function.

To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

AM/FM Tuner Operation

Seek Tuning

Press **TUNE ◄◄** or **TUNE ►►** for more than one second to seek to the next strong station.

Manual Tuning

Press **TUNE ◄◄** or **TUNE ►►** momentarily to move radio frequency up or down one step at a time. Press and hold to advance quickly.

Band

Press **BAND** to select between FM1, FM2, FM3, AM1 and AM2 bands. Up to six presets can be programmed for each band, enabling up to 18 FM stations and 12 AM stations to be stored in memory.

Storing Presets

Up to 18 FM and 12 AM stations can be stored. To store a station, select the desired band and station. Press and hold the desired preset button (1-6) for more than two seconds. When stored, the preset number will appear in the display.

Recalling Presets

Preset stations can be recalled any time by pressing the corresponding preset button.

To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

CD Operation*

Insert CD	With the label facing up, insert a standard size CD into the CD slot. Playback will begin automatically.
Eject CD	Press **EJECT** (located behind the front panel) to eject the CD. The unit will change to previous mode of operation.
Track Select	Press TUNE ►► to skip to the beginning of the next track. Press TUNE ◄◄ to return to the beginning of the current track. Pressing TUNE ◄◄ again skips to the beginning of the previous track.
Fast Forward/ Reverse	Press and hold **TUNE ►►** or **TUNE ◄◄** to fast forward or reverse a track.
Pause	Press ►/ II to temporarily stop CD playback. Press ►/ II again to resume playback.
Intro	Press **INT** to access the Intro menu, then turn the volume knob to select one of the following: • OFF - Cancels the INT function. • ALL - Plays the first 10 seconds of each track.
Repeat	Press **RPT** to access the Repeat menu, then turn the volume knob to select one of the following: • ALL - Plays all tracks on CD. • TRACK - Continuously repeats selected track.
Random	Press **RDM** to access the Random menu, then turn the volume knob to select one of the following: • OFF - Cancels the RDM function. • ALL - Plays all tracks in random order.
CD-R/CD-RW Compatibility	Some CD-Rs and CD-RWs may be incompatible with this unit, depending on media type and recording method. Refer to the online owner's manual for details.

* Not available on all models.

To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

MP3 / WMA Operation *

Playing MP3/WMA Files

To play MP3/WMA files, insert a data CD, SD card or USB device containing MP3/WMA files.

Track Select

Press **TUNE** ►► to skip to the beginning of the next song. Press **TUNE** ◄◄ to return to the beginning of the current song. Pressing **TUNE** ◄◄ again skips to the beginning of the previous song.

Fast Forward and Reverse

Press and hold **TUNE** ►► or **TUNE** ◄◄ to fast forward or reverse a track.

Pause

Press ►/ ▮▮ to temporarily stop playback.
Press ►/ ▮▮ again to resume playback.

Folder Access

Press 🗀 to select the next folder. Press 🗀 to select the previous folder. Folder access is only available on discs or devices with more than one folder.

Repeat

Press **RPT** to enter the Repeat menu, then turn the **volume knob** to select one of the following options:

- ALL - Plays all tracks on disc or device.
- TRACK - Continuously repeats selected track.
- FOLDER - Continuously repeats all files in folder.

Random

Press **RDM** to enter the Random menu, then turn the **volume knob** to select one of the following options:

- OFF - Cancels RDM function.
- ALL - Plays all tracks in random order.
- FOLDER - Plays all tracks in folder in random order.

Intro

Press **INT** to enter the Intro menu, then turn the **volume knob** to select one of the following options:

- OFF - Cancels the INT function.
- ALL - Plays first 10 seconds of each track.
- FOLDER - Plays first 10 seconds of each track in the selected folder.

* Not available on all models.

To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

Operation of iPod/iPhone*

Connect an iPod/ iPhone Device (sold separately)

To play music from an iPod/iPhone device, connect the USB cable (included with your iPod/iPhone device) to the unit's USB port. Playback will begin automatically.

Song Select

Press ►► to skip to the next song. Press ◄◄ to return to the beginning of the current song. Pressing ◄◄ again skips to the beginning of the previous song.

Forward/Reverse

Press and hold ►► or ◄◄ to fast forward or reverse.

Pause

Press ►/❚❚ to temporarily stop playback.
Press ►/❚❚ again to resume playback.

Repeat

Press **RPT** to enter the Repeat menu, then turn the volume knob to select one of the following options:

- ALL - Repeats all tracks.
- SONG - Continuously repeats selected track.

Random

Press **RDM** to enter the Random menu, then turn the volume knob to select one of the following options:

- OFF- Cancels the RDM function.
- ALL - Plays all tracks in random order.
- ALBUM - Plays all tracks in album in random order.

Intro

Press **INT** to enter the Intro menu, then turn the volume knob to select one of the following options:

- OFF - Cancels the INT function.
- ON - Plays first 10 seconds of each track.

Music Search

Turn the **volume knob** to select between artists, albums, songs, playlists, podcasts and audiobooks. Press **SELECT** to select the desired search category. Most search categories have subcategories to navigate through.

Manual Control for iPod

When "MANUAL" control is selected from the Setup Menu, the iPod or iPhone device can be controlled directly from the device's interface. All functions except for volume can be used from the iPod or i Phone device.

Note: The firmware of the iPod/iPhone must be up dated to the latest version to be compatible with manual control model. Not all devices are compatible with manual control mode.

* Not available on all models.

To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

Bluetooth® Operation*

Preparation

Before using a Bluetooth device, it must be paired and connected. Ensure that Bluetooth is activated on your device before beginning the pairing process.

Pairing a New Device

The head unit broadcasts the pairing signal constantly when no devices are connected. Complete the pairing sequence from your Bluetooth device. Refer to the owner's manual for your device for more details.

The device name is "DUAL BT"
The Bluetooth passcode "1234"

Note: The head unit can be in any mode of operation when pairing is performed.

Pairing Additional Devices

If a device is currently connected, press and hold ☎ to disconnect the current device before a new device can be paired. Then begin the pairing sequence from the new Bluetooth device.

Disconnecting a Device

Press and hold ☎ for 3 seconds to disconnect a connected device. The device will remain paired and appear in the SEARCH menu, but not be connected.

Streaming Audio Troubleshooting

The head unit supports A2DP wireless streaming audio from a Bluetooth mobile device directly to your head unit. The following functions can be used to control the music:

- Press ►► to skip to the next available audio track.
- Press ◄◄ to skip to the previous audio track.
- Press ►/ ❚❚ to toggle between play and pause during playback.

* Not available on all models.
To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

Pandora® Operation*

Requirements

Control for Pandora requires:
- An iPhone device with a reliable data connection, or an iPod touch that is connected to wireless internet.
- The Pandora App installed on the iPhone/iPod device.
- An active account with Pandora (www.pandora.com).
- The USB sync cable included with iPod/iPhone device.

USB Connection

Connect an iPod touch or iPhone device (required, sold separtely) to the USB port, using the USB sync cable included with your iPhone device.

Changing Stations

Press **SELECT** to display the stations menu. Turn the **volume knob** to cycle through the list of stations, then press **SELECT** when the desired station is highlighted.

Note: Stations must be created on your account prior to connecting your iPod/iPhone device to the head unit.

Shuffle

Press **SELECT** to display the stations menu. Choose "Shuffle" from the stations menu to shuffle songs from all of your stations.

Skip Track

Press ►► to skip the current song.

Play/Pause

Press ►/❚❚ to temporarily stop playback.
Press ►/❚❚ again to resume playback.

Thumbs Up

Press 👍 to customize the station to play more songs like the currently playing song.

Thumbs Down

Press 👎 to customize the station to play songs that are different from the currently playing song.

Device Compatibility

Refer to the Owner's Manual for a complete list of devices compatible with this head unit. Refer to www.pandora.com/everywhere/mobile for devices compatible with the Pandora mobile application.

Troubleshooting

Note: Pandora is an internet service, carrier and data charges may apply.

* Not available on all models.
To download the complete Owner's Manual for your radio, please visit www.dualav.com/support/manuals.php.

Limited One-Year Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase. (Note that select marine products carry a 2-year warranty. Please visit www.dualav.com for details.) Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls may save you a service call.
2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.
3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.
4. For more information and for the location of the nearest authorized service center please contact us toll-free at 1-866-382-5476 or by email at cs@dualav.com.

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Dual®

Dual Electronics Corp.
Toll Free: 1-866-382-5476
Monday-Friday, 9AM-5PM
www.dualav.com

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"Made for iPod" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to iPod or iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod or iPhone may affect wireless performance.

The Bluetooth® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Namsung is under license.

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NSA1013-V01

DMP670
DMS365
DMS369

DMP/DMS Series

INSTALLATION/OWNER'S MANUAL

Marine Speakers

MARINE

Dual®

Safety Precautions

- To prevent injury and damage to the unit, please read and follow the instructions in this manual.
- If you feel unsure about installing this system yourself, have it installed by a qualified audio technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Preparation/Installation

Please read entire manual before installation.

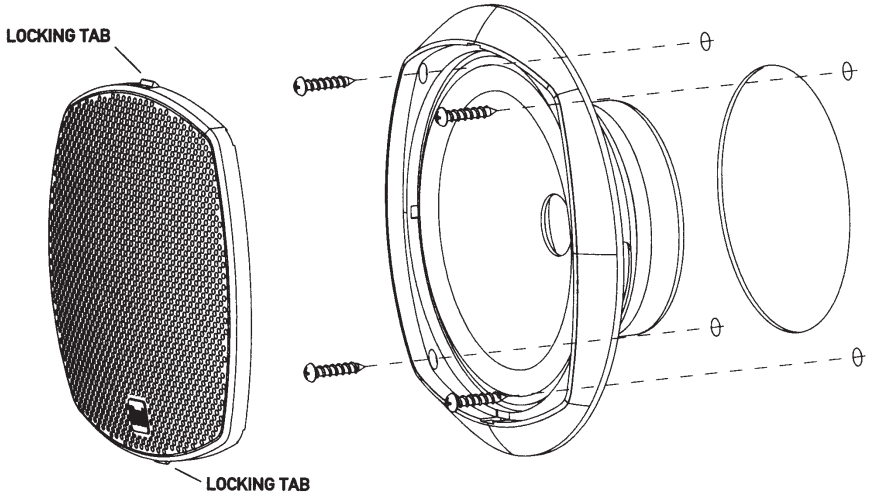
Before You Start

- Disconnect negative battery terminal. Consult a qualified technician for instructions.
- Use extreme caution when drilling holes to avoid damaging fuel lines, hydraulic lines or existing wiring.
- If additional wiring is required, we recommend that you run all wires prior to mounting your speaker in place.
- Use the highest quality connectors for a reliable installation and to minimize signal and power loss.
- Use caution before you drill or cut! Be careful not to cut or drill into gas tanks, fuel lines, hydraulic lines, vacuum lines or electrical wiring.
- Avoid running wires over, near, or through sharp edged surfaces. We suggest you also use rubber grommets to protect any wires routed through metal.

Mounting and Installation

- Determine where the speakers will be mounted. Ensure an area large enough for the speaker to mount evenly. Be sure the mounting location is deep enough for the speaker to fit.
- Using an appropriate tool, cut the appropriate size mounting hole (see specifications).
- Remove grille from speaker by inserting the release key into the locking tab slots located around the outside of the grille. Gently apply pressure towards the center of the grille to release the locking tabs.
- Use the speaker as a template to mark the locations for the mounting screws. Drill the mounting screw holes with a 1/8" pilot bit. Route speaker wires and connect to speakers, observing speaker polarity.
- Install speaker into opening using supplied hardware and test for correct operation.
- Align the speaker grille locking tabs and snap grille into place.

TYPICAL MOUNTING



Specifications

DMP670

- Overall Diameter: **7.13" (181mm)**
- Mounting Depth: **2.13" (54mm)**
- Mounting Height: **.87" (22mm)**
- Cut out Diameter: **5.13" (130mm)**
- Frequency Response: **45Hz-15kHz**
- Sensitivity: **88dB @1W/1M**
- Impedance: **4 ohm**
- RMS Power: **20 Watts**
- Peak Power: **100 Watts**

DMS365

- Overall Diameter: **7.13" (181mm)**
- Mounting Depth: **2.40" (61mm)**
- Mounting Height: **1.02" (26mm)**
- Cut out Diameter: **5.13" (130mm)**
- Frequency Response: **45Hz-17kHz**
- Sensitivity: **88dB @1W/1M**
- Impedance: **4 ohm**
- RMS Power: **30 Watts**
- Peak Power: **120 Watts**

DMS369

- Overall Diameter: **10.55" (268mm) x 7.87" (200mm)**
- Mounting Depth: **3.47" (88mm)**
- Mounting Height: **1.34" (34mm)**
- Cut out Diameter: **8.47" (215mm) x 5.71" (145mm)**
- Frequency Response: **42Hz-17kHz**
- Sensitivity: **89dB @1W/1M**
- Impedance: **4 ohm**
- RMS Power: **50 Watts**
- Peak Power: **200 Watts**

Design and specifications subject to change without notice.

Limited One Year Warranty

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Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls or connections discussed in your instruction booklet may save you a service call.

2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.

3. Please describe your problem in writing and include your name, a USA return shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.

4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

- Call us toll-free at 1-866-382-5476
- E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

Dual Electronics Corp.
Toll Free: 1-866-382-5476

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